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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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ZEWDU, MELESS NMN				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/625,893

**Applicant(s)**

NGUYENPHU, THINH

**Examiner**

Meless N. Zawdu

**Art Unit**

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**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15, 32, 37 and 40-59 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-15, 32, 37, 40-45, 47-55 and 57-59 is/are rejected.
- 7) ☒ Claim(s) 5, 46 and 56 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. This action is in response to the communication filed on 5/12/08.
2. Claims 38-39 were previously canceled.
3. Claims 16-31 and 33-36 have been canceled in this amendment.
4. Claims 43-59 have been added in this amendment.
5. Claims 1-15, 32, 37 and 40-59 are pending in this action.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 recites the limitation "said one or more messages" in line 13. There is insufficient antecedent basis for this limitation in the claim.

Claims 50-52 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are neither independent nor dependent in form. In other words, they refer to other claim/s as dependent claims and also indicate, by incorporate the features of other claim/s by reference, that they are independent claims. For examination purpose, these claims are treated as independent claims.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6, 8-11, 13-17, 20, 22-37 and 39 are rejected under 35 U.S.C. 103(a)

as being unpatentable over Komandur et al. (Komandur) (US 2003/0137948 A1) in view of Shibata (2002/0029261 A1).

**As per claim 1:** Komandur discloses a system, comprising:

at least one access network configured to provide a wireless interface between a mobile device and the at least one access network for communication of packet data (see abstract; paragraph 0032);

a core network comprising at least one core network node for supporting communication of packet data on the wireless interface (see paragraph 0032); and

a controller/switch provided in association with the at least one access network, and configured to monitor at least one condition associated with the wireless interface (see paragraphs 0045, 0059, 0064), and when the monitoring indicates that the at least one condition is met, to generate and send to the core network node one or more messages/ACK in response to one or more of said one or more messages from the core network node (see paragraphs 0057, 0064). But, Kondur does not explicitly teach about releasing a communication link associated with a mobile

device in the absence of a response to one or more messages/pages directed to the mobile device, as claimed by applicant. However, in the same field of endeavor, Shibata teaches about Information supply system and Control Method thereof, an access point (AP) (radio access) sends an inquiry (message) signal once every predetermined time via an antenna to which a mobile communication terminal responds to (see paragraph 0052) and when a local server (node) detects that there is no response from the mobile communication terminal for a predetermined time (if the mobile terminal moves out of the range covered by the AP), the local server sends a channel disconnection to the AP and upon the reception of the channel disconnection message, the AP releases the channel assigned to the mobile terminal (see paragraph 0054). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching of Komandur with that of Shibata for the advantage of presenting only information selected by the information selecting means to the service subscriber terminal that exists in the service area (see paragraph 0012).

**As per claim 2:** Shibata teaches a communication system, wherein the controller/local server/ is configured to monitor a condition associated with signal strength on the wireless interface (see paragraphs 0054-0055). Range/distance in a radio communication is a function of radio signal strength, and is obvious within the configuration/embodiment of the modified prior art.

**As per claim 9:** Komandur teaches a communication system, wherein the core network node comprises an access gateway (see fig. 1; paragraph 0004). Block 120 must have a gateway to access the network (110).

**As per claim 10:** Komandur teaches about a communication system, wherein the access gateway comprises a packet data support node (see fig. 1; paragraphs 0030-0033).

**As per claim 11:** Komandur teaches about a communication system, wherein the controller is provided in a base station controller (see fig. 1; paragraphs 0032). A wireless network, like fig. 1), includes a base station controller, which is known to control base stations. This feature is also provided in Yarwood reference (see (BSS)).

**As per claim 12:** Komandur teaches about a communication system, wherein the controller is provided in a packet function associated with the access network (see paragraph 0046).

**As per claim 13:** Shibata teaches about a communication system, wherein the controller is configured to respond to messages that are sent to the mobile device on behalf of the mobile device (see paragraphs 0052-0055).

**As per claim 14:** Komandur teaches about a communication system, wherein the controller is configured to send a notification regarding the status of the wireless interface in response to a message from the core network (see paragraph 0045).

Mobile reach-ability is a status data.

**As per claim 15:** the features of claim 15 are similar to the features of claim 1, except claim 15 is directed to a method comprising the steps to be performed by the system of claim 1. In other words the steps of claim 15 are required for the system of claim 1 to perform its intended function and the system of claim 1 is required so as to perform the

steps of claim 15. Hence, claim 15 is rejected on the same ground and motivation as claim 1 since the method is required by the system.

**As per claim 32:** the features of claim 32 are similar to the features of claim 1, except, in response to receiving the notification (of the mobile being out of reach), retaining said data communication link but pausing from sending further data packets from the core network to the mobile device, which is taught by Komandur (see paragraphs 0045; 0049); and processing the data packets in accordance with a predefined policy, taught by Komandur (see abstract), wherein congestion control and avoidance can be considered as a data packet processing policy. Furthermore, the local sever that issues a channel disconnect instruction to the AP (of Shibata) could be considered as a node of a core network or a functionally equivalent node.

**As per claim 37:** the features of claim 37 are similar to the features of claim 1, except detection means for detection at a controller provided in association with the access network that at least one trigger condition associated with the wireless interface is met, which is taught by Komandur (see paragraphs 0045, 0049, 59, claim 1). Any of the conditions in Komandur's reference, i.e., the mobile being out of reach or/and lost packets, can be considered as triggering conditions. Furthermore, the core network postponing/delaying the release of said release link in response to such further message is also taught by Komandur (see paragraph 0045).

**As per claim 40:** the features of claim 40 are similar to the features of claim 1, wherein the first sending unit is the paging source and the second sending unit is the response source that includes the intermediaries (BSC or BSS or BS), as provided by the

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combined references. Furthermore, regarding the at least one trigger conditions associated with the wireless interface, the packet data that indicates that the mobile is unreachable (paragraphs 0045-0046) or the time out priority (paragraphs 0049, 0059) could be considered as trigger condition since the claim does not say what is being triggered. Therefore, claim 40 is rejected on the same ground and motivation as claim 1.

**As per claim 41:** the features of claim 41 are similar to the features of claim 1, except generating and sending a response message on behalf of the mobile device, which is taught by (see col. 7, lines 44-52); and postponing release of said data communication link which is taught by Komandur (see paragraph 0045). Therefore, claim 41 is rejected on the same ground and motivation as claim 1.

**As per claim 42:** the features of claim 42 are similar to the features of claim 41, except claim 42 is directed to a method comprising the steps required to be followed by the apparatus of claim 41. Hence, since the method is required by the apparatus and the apparatus is obviated by the combination of references discussed in claims 1 and 41 above, claim 42 is rejected on the same ground and motivation as claim 41.

**As per claim 43:** the feature of claim 43 is similar to the feature of claim 2. Hence, claim 43 is rejected on the same ground and motivation as claim 2.

**As per claim 50:** the feature of claim 50 is considered as similar to the feature of claim 41, as indicated by the phrase therein. Thus, since the features of claim 41 are obviated by the prior art of record, claim 50 is rejected on the same ground and motivation as claim 41.



**As per claim 51:** the claim is directed to a packet control function associated with the access network comprising an apparatus according to claim 41. Thus, claim 51 is similar to claim 41, except the packet control function. However, the prior art of record, Komandur in particular, teaches a re-transmission control in wireless packet data networks (see title), which obviates the packet control function recited in claim 51. Therefore, claim 51 is rejected on the same ground and motivation as claim 41.

**As per claim 52:** as indicated by the phrase, "according to claim 41", claim 52 is similar to the feature of claim 41. Therefore, claim 52 is rejected on the same ground and motivation as claim 41.

**As per claim 53:** the feature of claim 53 is similar to the feature of claim 2. Hence, claim 53 is rejected on the same ground and motivation as claim 2.

Claims 3, 8, 44, 49, 54 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references applied to claims above, and further in view of Aalto (6,041,235).

**As per claim 3:** the above references do not explicitly teach about a controller monitoring the signal strength of uplink link layer, as claimed by applicant. However, in the same field of endeavor, Aalto teaches that a base station (which is a controller) monitors the level and quality of the signal (uplink signal) that is served by the base station (see col. 1, lines 2244). For the advantage of performing handover procedures when the monitored signal indicates that the quality of the signal at the current cell is low (see col. 1, lines 36-44).

**As per claim 44:** the feature of claim 44 is similar to the feature of claim 3. Hence, claim 44 is rejected on the same ground and motivation as claim 3.

**As per claim 54:** the feature of claim 54 is similar to the feature of claim 3. Hence, claim 54 is rejected on the same ground and motivation as claim 3.

**As per claim 8:** Aalto teaches about a communication system, wherein the controller (BS) is configured to monitor pilot signals from the mobile device (see col. 1, lines 33-44). The uplink signal from the mobile terminal to the base station and monitored by the base station is a pilot signal. Motivation is same as provided in the rejection of claim 3 above.

**As per claim 49:** the feature of claim 49 is similar to the feature of claim 8. Hence, claim 49 is rejected on the same ground and motivation as claim 8.

**As per claim 59:** the feature of claim 59 is similar to the feature of claim 8. Hence, claim 59 is rejected on the same ground and motivation as claim 8.

Claims 6, 47 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references applied to claims above, and further in view of Ahmavaara et al. (Ahmavaara) (US 6,792,278 B1).

**As per claim 6:** the above references do not explicitly teach about a communication system, wherein the controller is configured to monitor a condition associated with paging of the mobile device, as claimed by applicant. However, in the same field of endeavor, Ahmavaara teaches about creating a paging database in a suitable network node (like in RNC) wherein the RNC receives (monitors) a page response message from a paged mobile device using the paging information created in the paging

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database (see col. 2, lines 14-67; col. 3, line 65-col. 4, line 29; col. 4, line 48-col. 5, line 4). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to further modify the above references with the teaching of Ahmavaara for the advantage of reducing signaling need for the establishment of data connection (see col. 2, lines 14-18).

**As per claim 47:** the feature of claim 47 is similar to the feature of claim 6. Hence, claim 47 is rejected on the same ground and motivation as claim 6.

**As per claim 57:** the feature of claim 57 is similar to the feature of claim 6. Hence, claim 57 is rejected on the same ground and motivation as claim 6.

Claims 4, 45 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references applied to the respective claims above, and further in view of Sivalingham (US 7,154,903 B2).

**As per claim 4:** the references applied to the claims above do not explicitly teach about a condition that comprises expiration of a timer, as claimed by applicant. However, in the same field of endeavor, Sivalingham teaches about a packet control function (fig. 1, element 18) communicatively coupled with a BSC and a PDSN, wherein the PCF, in response to receiving data for a dormant mobile terminal, starts a reactivation timer to set a time within which the mobile must establish connection with the network (see at least the abstract). It is to be noted that the PCF is coupled with the radio access controller (BSC) and thus can be considered as in the service of the controller. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to further modify the above references with the teaching of

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Sivalingham for the advantage of managing networks that maintain dormant or inactive packet data session for mobile terminals (see col. 1, lines 7-10).

**As per claim 45:** the feature of claim 45 is similar to the feature of claim 4. Hence, claim 45 is rejected on the same ground and motivation as claim 4.

**As per claim 55:** the feature of claim 55 is similar to the feature of claim 4. Hence, claim 55 is rejected on the same ground and motivation as claim 4.

Claims 7, 48 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references applied to the respective claims above and further in view of Lim (US 2002/0057658 A1).

**As per claim 7:** the references applied to the above claims do not explicitly teach about a controller that is configured to monitor re-registration message from the mobile device, as claimed by applicant. However, in the same field of endeavor, Lim teaches about a packet data network wherein a controller a node (BSC/PCF, periodically renew (thus monitoring) registration by the registration request message (paragraph 0015).

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to further modify the above references with the teaching of LIM for the advantage of releasing a radio packet link of an old packet control function (see paragraph 0022).

**As per claim 48:** the feature of claim 48 is similar to the feature of claim 7. Hence, claim 48 is rejected on the same ground and motivation as claim 7.

**As per claim 58:** the feature of claim 58 is similar to the feature of claim 7. Hence, claim 58 is rejected on the same ground and motivation as claim 7.

***Allowable Subject Matter***

Claims 5, 46 and 56 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: within the context of the preceding claims, the prior art of record does not teach or fairly suggest configuring a timer to expire before the expiration of a message, as recited in claims 5, 46 and 56.

***Response to Arguments***

Applicant's arguments with respect to claims 1-15, 32, 37 and 40-59 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meless N. Zewdu whose telephone number is (571) 272-7873. The examiner can normally be reached on 8:30 am to 5:00 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bost Dwayne D can be reached on (571) 272-7023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any inquiry of a general nature relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

/Meless N Zewdu/  
Primary Examiner, Art Unit 2617  
5/23/2008.